

the two species feeding on the flowers of their respective foodplants. So far as we have got, a similar parallelism occurs in *Adkinia zophodactylus*, but with regard to the latter, we still await exact observations as to how the spring larva of this species disports itself from the time it re-commences to feed until pupation, in fact, from the time the autumn eggs are laid right through winter and spring until pupation. We have a splendid account from various observers of the flower-feeding summer larvæ in more than one brood (*Nat. Hist. Brit. Lep.*, v., pp. 322-325), but of the winter boring larvæ we know practically nothing, and still await the careful observer who is to tell us, we hope, in the immediate future.

A recent note from Mr. Gillmer (written May 24th, 1908) states that, on May 20th, he found larvæ of *Adkinia* var. *pneumonanthæ* on *Gentiana pneumonanthe*, that they become external on the food-plant about the middle of May, and feed on the apex of the plant. The earliest larva pupated May 23rd, and the earliest imago emerged on June 3rd.

The last larva observed by us had pupated by June 11th, by which date four imagines had, as previously noted, already appeared. The imago from this last pupa emerged on June 23rd. The pupal stage of this brood is, therefore, a very short one.

This addition to our knowledge of the life-history of the winter brood of *Adkinia graphodactyla* opens up, so far, new ground, and we would suggest that a copy of these pages should be carefully fastened so as to face page 529, in volume v, of *The Natural History of British Lepidoptera* (vol. i, *Nat. Hist. of British Alucitides*).

Butterflies in the Pyrenees in 1907.

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The following are some extracts from our entomological diary for about four weeks, which we spent in the French Pyrenees in June and July, 1907. For the first week we were in the Eastern Pyrenees at Vernet-les-Bains, an excellent entomological centre; we then moved westward, our headquarters being, successively, Bagnères de Luchon, Caunterets, Gavarnie, and Biarritz. At Vernet the weather was fine, and it was exceedingly hot; afterwards the weather was very broken, and at Caunterets we practically had no sunshine at all. The season, entomologically and otherwise, was a late one, and the snow was lying thick at much lower altitudes than is usual in the early summer.

June 16th.—Vernet to Casteil and the Monastery of St. Martin. The sky was cloudless, and it was very hot, notwithstanding a fairly strong breeze. On this one day we recognised more than fifty different species. The insects, speaking generally, were wild and difficult to catch, and this continued to be the case throughout our stay at Vernet. The only skipper that we noticed was *Hesperia carthami*. Amongst the "blues" were *Nomiades cyllarus*, *Scolitantides baton*, *S. orion*, and *Everes argiades* var. *coretas*. These, with the exception of *S. baton*, were getting over; but while at Vernet we took good specimens of all of them. Other blues were *Cyaniris semiargus*, *Polyommatus alexis*, and *Aricia astrarche*. *Papilio podalirius* var. *feisthamelii* was flying freely and in excellent condition. This butterfly and *Aporia crataegi* were the insects most in evidence, if not absolutely the most common, at Vernet. We took *Parnassius apollo* and

P. mnemosyne, both in good condition. *Euchloë euphenoides*, usually a rather dark form, was plentiful and very active, and we took, while at Vernet, a good series both of ♂s and ♀s, though the former were getting over, so that we had to pick our specimens. *Melitæa cinxia* was fairly common, but rather worn. We took specimens of *M. deione*. Care was required in distinguishing this species from *M. parthenie* and *M. athalia* (a large form), which were also to be met with. *Limenitis camilla* was in good condition and very large. *Coenonympha arcania* was common, as in most of the other places that we visited in the Pyrenees. The only Erebiid taken was a single *Erebia evias*, in fresh condition.

June 17th.—Valley of St. Vincent, weather unchanged. To-day, in addition to *Hesperia carthami*, we met with *Powellia sao*. The "blues" were much the same as yesterday, with the addition of *Cupido minimus*, *Polyommatus bellargus*, and *P. escheri*. *C. minimus* is spoken of by Mr. Elwes as rare in the Pyrenees; in our experience, however, it was fairly common nearly everywhere. Of Theclids we took to-day *Thecla ilicis* and *T. acaciae*, both very fresh. All the specimens of the former that we met with at Vernet were ab. *cerri*. Mr. Rowland-Brown, who was at Vernet in July, states that he did not notice any examples of ab. *cerri*. This may point to two broods, ab. *cerri* being more frequent in the earlier one. Rather unexpectedly, as we thought the species would be over, we took a specimen (the only one we saw) of *Thais rumina* var. *medesicaste* in excellent condition. *Euchloë euphenoides* was again plentiful, also *E. cardamines*, but in less good condition. Amongst the Melitæas were *Melitæa phoebe* and *M. didyma*. We also took *Pararge maera* var. *advasta* and *P. egeria* (type), both in fine condition.

June 18th.—Weather still very fine. We spent most of to-day on a steep bank, within the hotel grounds, on the left side of the stream flowing through Vernet. Here we found *Scolitantides orion* more plentiful than on the two preceding days, and in better condition. After some search we also hit upon the right place for *Laeosopsis roboris*. The insect was not yet plentiful, but by the exercise of some patience we secured a fine series in absolutely fresh condition. Previously, we had seen only bred specimens of this species, and these were not much more than half the size of the ones we took to-day. In the afternoon we found a spot just above the winter garden where *Thecla acaciae* was plentiful and very fine. In the same place we took *Epinephele jurtina* var. *hispulla*.

June 19th.—To Casteil and then on to the Tower of Goa. Another brilliant day. The heat was great, and we suffered very much from thirst. Quite near the Tower of Goa, *Papilio podalirius* var. *fejsthamelii* were fighting in hundreds, a wonderful sight. A very brilliant form of *Chrysophanus alciphron* var. *gordius* was plentiful, and *Scolitantides baton* occurred in some numbers. To the "skippers" we had previously taken were added *Erynnis alcaææ*, *Hesperia serratulæ*, and *H. malvæ*. Amongst the "blues" were *Polyommatus amanda* and *P. hylas*. *Thecla acaciae* was met with quite high up, near the Tower of Goa. The Erebias were *Erebia stygne* and *E. evias*, two species which it needs some little experience to distinguish from one another, though the underside hindwing is a sure guide. We took a single specimen of *Melanargia lachesis*, the first of this species that we had

seen; a week or so later it would no doubt be very plentiful at Vernet. Amongst other species taken to-day were *Nemeobius lucina*, *Pontia daplidice*, and *Colias edusa* ab. ♀ *helice*; but none of these were in good condition.

June 20th.—Another day of bright sunshine. In the morning we again visited the hot corner where we had taken *Laeosopsis roboris*, and added to our series of this insect. One of us spent nearly an hour in pursuit of a specimen of *Epinephele pasiphaë*, which kept returning to the same shady place amongst brushwood, and consequently always avoided capture. We took a second specimen of *Melanargia lachesis*.

June 21st.—One of us, having slept at the Chalet Hotel of the Canigou, climbed this mountain in the morning and made some captures during the descent. These included *Thecla ilicis* ab. *cerri*, *T. acaciae*, *Parnassius mnemosyne*, *Melitaea deione*, and *Erebia evias*. The one of us who remained at Vernet returned to the pursuit of *Epinephele pasiphaë*, and this time with success. It was an absolutely fresh specimen, no doubt the forerunner of many more to come. Amongst other captures were two very large *Erynnis althaeae*, both ♀ s, *Celastrina argiolus*, *Melitaea dictynna* ♀ (a light type), and two *Melanargia lachesis*. There was some cloud and a little rain in the morning, and a thunderstorm in the evening.

June 22nd.—We left Vernet in torrents of rain. The disturbances in connection with the wine trade in the south of France were at their height, and some of the towns through which we passed to-day, *e.g.*, Narbonne and Perpignan, were almost in a state of siege. We stayed the night at Carcassonne, and went on next day to Luchon.

June 24th.—Lac d'Oo. Sunshine for about an hour only, and no captures of any interest.

June 25th.—Vallée du Lys. A fine day. Amongst the insects that we took were *Erynnis althaeae*, *Cyaniris semiargus*, *Polyommatus bellargus* ab. ♀ *ceronus*, *Pontia daplidice* var. *bellidice* (in good condition, but flying with extraordinary rapidity so as to be difficult of capture), *Melitaea athalia*, *M. dictynna*, *Polygonia c-album*, *Pararge maera* var. *advasta*, *Coenonympha arcania*, *Erebia stygne*, and *E. evias*. But our most interesting captures were two fine specimens of *Polyommatus corydon* var. *corydonius*, a variety which we have not seen previously recorded from the French Pyrenees. The colour of this butterfly on the upperside is quite different from the type, approaching that of *bellargus*, though the underside is typically *corydon*. At first, indeed, we took it for a variety of *P. bellargus*, which was common everywhere. There was not a single specimen of *corydon* (type) to be seen here, nor did we meet with it elsewhere in the Pyrenees.

June 26th.—To-day we took a walk into Spain by the Port de Vénasque, and the capturing of butterflies was a rather secondary consideration. Above the Hospice de France, *Pararge hiera* was flying in some abundance, and higher up, at about 7000 feet, we took some fine and very fresh specimens of *Erebia lappona* var. *sthennygo*. At something over 7000 feet we also captured a particularly fine *Colias edusa* and two *Pontia callidice*. The day ended in a heavy thunderstorm.

June 27th.—We spent the morning above the Hospice de France on the way to the Port de la Piquade, and found it a very good hunting-ground. The height above sea-level was something over 4500

feet. At midday it clouded over, and there was a good deal of thunder. We found *Nomiades cyllarus* abundant, and in much fresher condition than at Vernet. *Polyommatus escheri* was not uncommon, the specimens being small and bright, with the marginal spots well developed; in colour they differed from the specimens that we have taken in Switzerland. *Melitæa aurinia*, smaller and rather darker than the ordinary lowland form, was very much in evidence. The *Erebiæ* were in greater variety than elsewhere, and included *E. epiphron* var. *cassiope* and var. *pyrenaica*, *E. oeme*, *E. stygne*, and *E. erias*. Of these, *E. oeme* was the commonest.

June 28th.—From Luchon to Cauterets, where we stayed till July 3rd, when we went on to Gavarnie. During the whole time we were at Cauterets the sun did not shine for more than two or three hours, and we saw hardly any butterflies.

July 4th.—A fine day, until the evening. In the morning we walked to the famous Cirque de Gavarnie. There were not many butterflies on the wing, but we took some very fresh *Erynnis larateræ*, which, throughout our stay at Gavarnie, we found fairly common, though—as usual—not very easy to capture. All the specimens were smaller and darker than those we have taken in Switzerland. Our only other capture of interest this morning was *Erebia tyndarus* var. *dromus*, and this also was in very fresh condition. While at Gavarnie we took only three specimens of this insect. It was evidently only just emerging, and would probably be common later on. In the afternoon, on the way to the Gave d'Ossoue, we took in the same field *Chrysophanus hippothoe*, ♀ type, and ♀ var. *eurymia*, the former in very good condition, the latter much worn.

July 5th.—Vallée de Poneyespée. Our most interesting capture to-day was a freshly-emerged specimen of *Lycaena orbitulus*, the only one we saw while at Gavarnie. Unfortunately, we were too early for this butterfly, and also for *L. pyrenaica*. The specimen we took was evidently var. *oberthürri*, the ground colour of the wings being deeper than in the type. In other respects, however, it does not correspond with the interesting description of this variety given by Mr. Rowland-Brown in the *Entomologist* for October, 1905. The discoidal spot on the upperside of the hindwings is not more definite than in the type, and the costal spot on the underside is ocellated. One of us, walking on to the Port d'Espagne and beyond, saw a number of specimens of *Erebia lefebrei*, but, unfortunately, the day not being very promising, he had left his net behind. They were very shy, and flew over steep and loose shale, so that in any case it would have been most difficult to capture them; but it was disappointing not to be able to make the attempt. We should have gone again to the same place, but there was no more sunshine while we were at Gavarnie.

The *Melitæas* that we met with at Gavarnie were *M. parthenie* and *M. dictynna*, the latter a peculiar light form, with the black spots on the underside of the hindwings very small or even absent. Perhaps the commonest butterfly was *Erebia stygne*, and it was in beautiful condition; the form was large, with the red band pronounced, and the ocellations large and numerous.

As already stated, we had no more good weather at Gavarnie, and on July 8th we went on to Biarritz.

July 9th and 10th.—We spent the mornings of these two days in

the neighbourhood of the Lac de Mouriscot, which appeared to be the best hunting-ground near Biarritz. The first day was very fine, but on the second day it was cloudy nearly the whole time. We had hoped to take a good series of *Heteropterus morpheus*, but we came across only one specimen of this curious butterfly. This was a ♂, and we took it in a hedge at some height above the swamp where we had been led to expect the ♂s. Probably we were too early for this insect. Another skipper taken on these two days was *Thymelicus acteon*, and this was plentiful. Of coppers, the only species met with was *Lowia dorilis*. By far the commonest blue was *Plebeius argus (aegon)*, a fine form with richly marked undersides. *Erebes argiades* (type) was fairly common, and in very good condition. We succeeded in taking only three or four specimens of *Lampides boeticus*. Some of these were worn, so that it hardly looked as if in this case we were too early. *Thecla ilicis* (type) was abundant, but worn. The only other Theclid we saw was a single specimen of *Bithys quercus*. We took a remarkably white specimen of *Colias edusa* ab. *helice*, even the orange spots on the hindwing being bleached, but it was in very poor condition. *Coenonympha arcania* was common, and we took a short series of *C. oedipus* among the reeds. Our captures were very fine specimens, and they were perfectly fresh, though one or two had their wings cut by the reeds. It took us a good many hours to secure even this short series, and we have no doubt that this was again a case in which, in consequence of the lateness of the entomological season, we should have been more successful had we arrived on the scene a little later.

Notwithstanding the lateness of the season which was against us at Gavarnie and Biarritz, and the unfavourable weather which we met with at Cauterets, and to a less extent at other places, our holiday was, on the whole, very satisfactory entomologically, as well as from other points of view, into which we need not now enter. It has been a source of much interest to compare Pyrenean specimens with specimens of the same species previously taken in Switzerland, and we took a fair number of species and varieties that were new to us, notably:—*Heteropterus morpheus*, *Polyommatus corydon* var. *corydonius*, *P. orbitalus* var. *oberthüri*, *Scolitantides orion*, *Erebes argiades* (type), *Lampides boeticus*, *Laeosopis roboris*, *Papilio podalirius* var. *feisthamelii*, *Thais rumina* var. *melasicaste*, *Pontia daplidice* var. *bellidice*, *Euchloë euphenoïdes*, *Melitæa deione*, *Pararge maera* var. *adrasta*, *P. egeria* (type), *Epinephele jurtina* var. *hispulla*, *E. pasiphaë*, *Coenonympha oedipus*, *Erebia epiphron* var. *pyrenaica*, *E. evias*, *E. lappona* var. *sthennyng*, and *Melanargia lachesis*. We give this list, as it may be interesting to entomologists who, like ourselves in previous years, have confined their attention mainly to Switzerland.

The Natural History of British Butterflies, Vols. I and II.*

By G. T. BETHUNE-BAKER, F.Z.S., F.E.S., &c.

We take up the completed volume ix of the *British Lepidoptera* with the mental reservation "Of the making of many books there is

* *A Natural History of British Butterflies, their world-wide Variation and Geographical Distribution*, by J. W. Tutt, F.E.S., Vol. i., pp. i-iv. and 1-479, pls. i-xx.; Vol. ii., pp. i-x. and 1-495, pls. i-xxviii. [Elliot Stock, 62, Paternoster Row, E.C. Price £1 1s. each volume net.]